SERDIRCHENKO, D.P.
Min. Rev.
1952

U- Raw Materials
and Ore Preparation

83-B. Concerning Certain Micaceous Magnesium-Iron Ores. (In Russian.) D. P. Serdirchenko. *Zapiski Vsesoyuznogo Mineralogicheskogo Obshchestva,* ser. 2, v. 80, no. 3, 1951, p. 175-181.

Micaceous ores of the North Caucasus and Eastern Timan were investigated for contents and modes of occurrence of Fe, Mg, Li, Al, Si, K, etc. 21 ref. (B10, Fe, Mg, Li, Al)

SERDITOVA, T.

USSR / Soil Science. Physical and Chemical Properties of Soils. J-2

Abs Jour : Ref Zhur - Biologiya, No 16, 1958, No. 72669

Author : Zernov, B.; Serditova, T.
Inst : Moscow Agricultural Academy Imeni K. A. Timiryazev
Title : Changes of the Water-Physical Properties of Turf-Podzolic Soil Depending on Changes and Shifts of Genetic Horizons

Orig Pub : Sb. stud. nauchno-issled. rabot. Mosk. s.-kh. akad. im. K. A. Timiryazeva, 1958, vyp. 8, 216-219

Abstract : No abstract given

Card 1/1

SERDIY, A.G., redaktor; TIKHOMIROV, A.A., kandidat ekonomicheskikh nauk, redaktor; STEPANYANTS, A.K., professor, redaktor; VINOGRADOV, V.N. redaktor; CHERNOZHUKOV, N.I., professor, redaktor; SHCHELKACHEV V.N., professor, redaktor; CHARYGIN, M.M. professor, redaktor; KUZMAK, Ye.M., professor, redaktor; MURAV'YEV, I.M. professor, redaktor; GUREVICH, V.M., redaktor; MURATOVA, V.M., redaktor; TROFIMOV, A.V., tekhnicheskiy redaktor.

[Seventh scientific and technical conference, 1952] Sed'maia nauchno-tekhnicheskaia konferentsiia, 1952. Moskva, Gos.nauchno tekhn.izd-vo neftianoi i gorno-toplivnoi lit-ry, 1953. 171 p.
(MLRA 8:10)

1. Moscow. Moskovskiy neftianoy institut. Nauchnoye studencheskoye obshchestvo.
(Petroleum Geology)

L 6659-65 EPA/EWT(1)/EWG(v)/T-2/EPA(bb)-2 Pe-5/Pw-4 AFETR/AEDC(b) WW

ACCESSION NR: AR4033381 S/0273/64/000/003/0016/0016

SOURCE: Referativny*y zhurnal. Dvigateli vnutrennego sgoraniya. Otdel'ny*y vy*pusk, Abs. 3.39.104

55

AUTHOR: Voropay, P. I.; Serdiy, A. G.

TITLE: The use of water spray in intake piston compressors for improving their operating economy

CITED SOURCE: Mashiny* i neft. oborud. Nauchno-tekhn. sb., no. 8, 1963, 43-46

TOPIC TAGS: internal combustion engine, turbocompressor supercharger, engine cooling, water spray engine cooling

TRANSLATION: At present, on aircraft with air-breathing jet engines, one of the methods of increasing power is spraying water, alcohol and ammonia into the compressor, which leads to a decrease in the consumption of energy in the compressor drive, and an increase in engine draft. Thus, on the F-105 Thunderchief aircraft (US), water sprinkling into the compressor during high speed operating schedules is utilized, to increase engine draft 20-30%. In an internal combustion engine with supercharging, spraying of water in the turbocompressor helps to improve the engine

Card 1/2

L 6659-65

ACCESSION NR: AR4033381

operating characteristics /5/. A review is made of the influence of spraying of water on the intake upon the operating process of the compressor. The spraying of water in the compressor is an effective method of cooling the air. When the temperature of the compressed air is lowered, the indicator of politropy of the compression line, and the specific work of the compression are lowered. The spraying of water aids in increasing the supply of air by weight, the lowering of the compression work, and the decrease in the consumption of water for cooling. In compressor installations, which do not permit of any kind of agent (water, alcohol, ammonia, etc) or are designed for producing dry compressed air, the basic system for cooling is external cooling with the use of highly effective intermediate coolers. It is necessary to conduct further research in order to determine the influence of spraying water on parts wear, scale formation, and the properties of lubricants. Four illustrations; six bibliographic references.

SUB CODE: PR ENCL: 00

Card 2/2

MKRTYCHAN, Ya.S.; SERDIY, A.G.; RAABEN, A.A.

Bench for testing the durability of the "Bush-piston" couple of hydraulic power and power slush pumps. Mash. i neft. obor. no.10:11-13 '64 (MIRA 18:1)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika I.M. Gubkina.

MKRTYCHAN, Ya.S.; SERDIY, A.G.

Diaphragm drill pump with hydraulic drive of the diaphragm. Mash. i neft. obor. no.5:12-17 '64. (MIRA 17:6)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. Gubkina.

POZHARNOV, G.M.; SERDIY, A.G.; LITVINOV, V.M.

Tests of elastic pump packing at high pressure. Mash. i neft. obor. no.6:9-11 '65. (MIRA 18:7)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. Gubkina i Groznenskiy neftyanoy nauchno-issledovatel'skiy institut.

AKSENOVICH, G.I.; SERDIY, B.A.

Automatic seismic station with an intermediate magnetic recorder.
Trudy Inst. fiz. Zem. no.25:16-29 '62. (MIRA 15:11)
(Seismometers)

AKSENOVICH, G.I.; SERDIY, B.A.

Some auxiliary devices for seismic stations of the Complex Seismologic Expedition. Trudy Inst. fiz. Zem. no.25:50-63 '62.
(MIRA 15:11)

(Seismometers)

BESSONOV, L.A., doktor tekhn. nauk, prof.; DEMIDOVA, I.G.; KOTOVA, L.F.; LINNICHENKO, N.N.; OCHAN, V.V.; SEREDNITSKIY, L.M.; VOSTROKNUTOV, N.G., retsenzent; OLEKSEYEVICH, V.P., retsenzent; FILARETOVA, A.S., retsenzent; ZARUDI, M.Ye., retsenzent; ZAIKA, Ye.V., st. prepod., retsenzent

[Textbook on the theoretical principles of electrical engineering] Zadachnik po teoreticheskim osnovam elektrotekhniki. [By] L.A.Bessonov i dr. Moskva, Vses. zaochnyi energ. in-t, 1963. 212 p. (MIRA 16:10)

(Electric engineering)

SERDNOK, M.P.

Perforation of the sigmoid with fish bones simulating a tumor. (MIRA 13:12)
Khirurgiia 36 no.2:116-117 F '60.
(COLON (ANATOMY)--DISEASES)

Serdobinskaya, L.

FILDISEVSKI, Petar; SERDOBINSKAJA, Lidija

Personal experiences in the treatment of psychosis with chlorpromazine. Med. glasn. 11 no.2:44-48 Feb 57.

1. Neuropsihijatriska klinika Medicinskog fakulteta u Skoplju Upravnik: prof. dr. B. Niketic.

(CHLORPROMAZINE, ther. use
psychosis (Ser))
(PSYCHOSES, ther.
chlorpromazine (Ser))

FILDISEVSKI,P.,doc. dr.; SERDOBINSKAJA,L.,dr.; KALICANIN,P.,dr.

Tetany and epilepsy. Med. glasn..13 no.5:253-258 My '59.

1. Neuropsihijatrisak klinika Medicinskog fakulteta u Skopju,
upravnik: prof. dr. B. Niketic.
(TETANY compl.)
(EPILEPSY compl.)

SERDOBINTSEVA, T.B.

Reactions of the methyl ester of methacrylic acid with organomagnesium compounds. II. Action of methylmagnesium bromide and ethylmagnesium bromide on methyl methacrylate. A. I. Lebedeva, L. A. Gavrilova, and T. B. Serdobintseva (State Univ., Leningrad). *Zhur. Obshchei Khim.* 26, 2438-41(1956); cf. *C.A.* 47, 8040*d*.—MeMgBr from 13 g. Mg and 48 g. MeBr with 26 g. $CH_2:CMeCO_2Me$ (cf. above ref. for procedure) gave 54.5 g. fraction contg. 38% dimethylisopropenylcarbinol and 48% *3-methyl-2-pentanone*, b.80-133°; the latter substance was identified by the *semicarbazone*, m. 94-5°. A higher boiling fraction (I) of the reaction products, 11.8 g., was also obtained, b_4 103-4°, d_{20} 0.9770, n_D^{20} 1.4468, which is either $MeCOCHMeCH_2CMe_2CO_2Me$ or $MeCOCMeEtCH_2CHMeCO_2Me$. The product refluxed 5 hrs. with aq. K_2CO_3 gave $C_{11}H_{18}O$, b_{18} 97-8°, d_{20} 0.9353, n_D^{20} 1.4307 (*semicarbazone*, decomp. 192-3°, which corresponded to either *3,4,6-trimethyl-4-ethyl-2-cyclohexen-1-one* or *3,3,4-trimethyl-2-ethyl-5-cyclohexen-1-one*); the other product of hydrolysis was an acid, $C_{10}H_{18}O_3$, b_4 155-60° (with decompn.), forming a mono-Ag salt; the acid yields an *oxime*, two forms of which were isolated, m. 120-1° and m. 115-16°; the *Na* salt of *oxime* gave an Ag salt, $C_{10}H_{18}O_3NAg$. These reactions were similar to those of δ-acetobutyric acid. Refluxing I 4 hrs. with EtONa-EtOH gave 60% yield of a product, m. 112-12.5°, which is either *3,4-dimethyl-4-ethyl-1,5-cyclohexanedione* or *2,4-dimethyl-2-ethyl-1,5-cyclohexanedione*. EtMgBr from 13 g. Mg and 54 g. EtBr with 25 g. $CH_2:CMeCO_2Me$ gave 2 fractions: the smaller fraction, $C_8H_{16}O$, b. 150-2°, d_{20} 0.8459, n_D^{20} 1.4332, and the larger fraction, $C_{12}H_{22}O_4$, b_{12} 120°, d_{20} 0.9869, n_D^{20} 1.4395. The latter refluxed 4 hrs. with alc. KOH gave an acid, $C_8H_{16}(CO_2H)_2$, m. 85-6°, which on slow distn. gave $C_{10}H_{16}O_3$, b. 280-1°, m. 35-6°. The results indicated the formation of *di-Me α,α'-dimethyl-α-propylglutarate*, which was hydrolyzed to the corresponding free acid, which was pyrolyzed to the anhydride. G. M. Kosolapoff

SERDOBOL'SKAYA, L. A.

20604 SERDOBOL'SKAYA, L. A. K voprosy o mebtoraspolozhenii ostrova varyazhskogo na dvepre. Sbornik nauch. Trudov (Pyatigor. gos. ped. in-t), vyp. 4, 1949, s. 213-17- Bibliogr: 12 nazv.

SO: LETOPIS ZHURNAL STATEY - Vol. 28 - Moskva - 1949

[illegible]

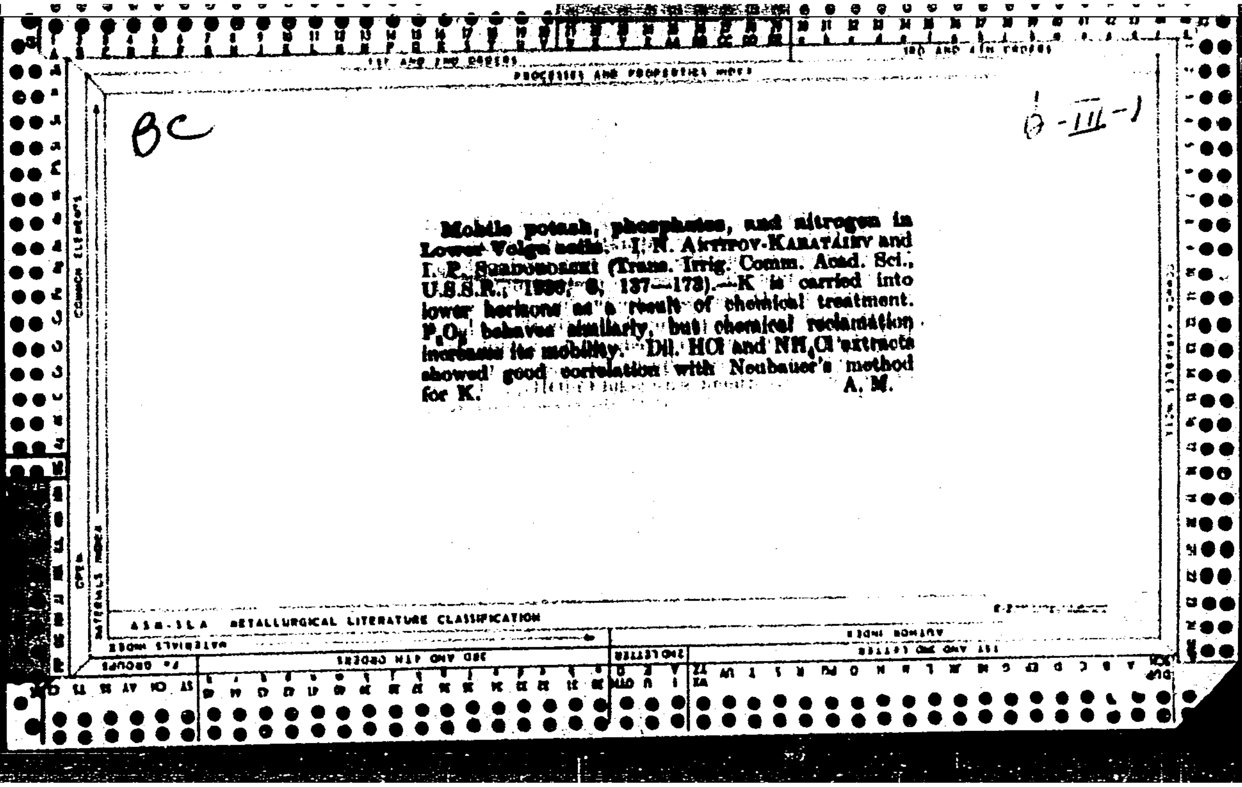
EYGENSON, L.S., doktor tekhn. nauk, prof.; SERDOBOL'SKAYA, S.A., ml.,
nauchnyy sotrudnik.

Method of claculating the integral absorption capacity of glass at constant temperatures. Trudy VNIIStekla no.37:85-91 '57. (MIRA 11:1)
(Glass--Testing) (Heat--Radiation and absorption)

[illegible], Ya.; STUKMAN, V., inzh. [illegible]

Device for distance-type control of the percentage of modulation of radio transmitters. Vest. sviazi 25 no. 1:20-23 Ja '65. (MIRA 18:12)

1. Nachal'nik laboratorii Leningradskoy direktsii radiosvyazi i radioveshchaniya (for Stukman).



1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
COMMON ELEMENTS
MATERIALS INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION
AUTHOR INDEX
1ST AND 2ND LETTER

BC

B-III-1

Mobile potash, phosphates, and nitrogen in Lower Volga soils. I. N. Antipov-Karataev and I. R. Shadovoski (Trans. Irrig. Comm. Acad. Sci., U.S.S.R., 1936, 6, 137—178).—K is carried into lower horizons as a result of chemical treatment. P_2O_5 behaves similarly, but chemical reclamation increases its mobility. Dil. HCl and NH_4Cl extracts showed good correlation with Neubauer's method for K. A. M.

PROCESSES AND PROPERTIES INDEX

A comparative evaluation of several methods of determining the available potassium in the carbonate soils of Middle Asia. I. P. Serdobolskii. *Trans. Dokuchaev Soil Inst.* (U. S. S. R.) 20, 71-92 (in English, 92-3) (1939). Carbonic acid was found to be the most suitable reagent for extg. available K from carbonate soils. It is pointed out that the chem. methods used in detg. the available K cannot give the information obtained from plot expts. J. S. Joffe

1ST AND 2ND ORDERS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

3RD AND 4TH ORDERS

2ND LETTER

AUTHOR INDEX

1ST AND 3RD LETTER

PROCESSES AND PROPERTIES INDEX

Ca

15

Effect of humidity on the oxidation-reduction processes in podzol soils. I. P. Serdobol'skii. *Pedology* (U. S. S R.) 1940, No. 7, 47-50.—For oxidation-reduction pro cesses, log ([Ox]/[Red]) = K (E_H − E_0), where K is a const. depending on temp. and on the valence of the ions taking part in the reaction, [Ox] and [Red] are the activities of the oxidized and the reduced forms, E_0 is the normal potential and E_H is the oxidation-reduction potential of the system. The present expts. were undertaken in order to investigate (1) the relation of E_H to moisture in soils and (2) the influence of a change in E_H on the system $NO_3^- \rightarrow NO_2^-$. The E_H of a soil suspension is variable, that of the soil is stable. For a moisture content of less than 60% the E_H is stable. Drying of the soil increases the E_H; thus a drop of H_2O content from 60 to 10% of the dry matter caused an increase from 60 to 120 mv. Increase of moisture above 60% causes a drop in E_H, the extent of which depends on the amt. of humus present. Soil rich in humus showed a gradual drop during 4 days from 0.50 to 0.02 v., as the moisture increased from 60 to 90%. The potential became negative (−0.03 v.) at moisture = 115%. Further increase of moisture (up to 1000%) produces a smaller change. In soils poor in humus increase of moisture up to 200% has no effect. Thus soil satd. with water by capillarity has a decreased E_H in the arable layer, rich in humus, while the lower lay-

ers, poor in humus, do not show any change in E_H. Hence measurement of E_H of a soil in water suspension will not give the true value under natural conditions. To every stage of the process of reduction of nitrates there corresponds a definite range of E_H. The cause of change in E_H depending on the stage of oxidation-reduction is not clear. It is assumed that both the E_H and the denitrification reaction are under some secondary influence in the soil. Both are indicators of a lessened activity of some type of bacteria, together with increased activity of some other type. The decrease of E_H due to increase of moisture in different soils leads to the increase of denitrification.

C. S. Shapiro

30 references.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

15

The application of electrodialysis to the replacement of phosphates. I. P. Serdobol'skii. *Trans. Dokuchaev Soil Inst.* (U. S. S. R.) 21, 140-66(in English, 166-7)(1940). Based on the theoretical principles of electrodialysis, S. developed a formula which gives the conditions under which a binary compd. would dialyze. A series of expts. with phosphate dialysis was conducted and the conclusion is that the method of electrodialysis is not applicable to phosphate. J. S. Joffe

COMMON ELEMENTS

OPEN

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SERDOBOL'SKII, I. P.

SERDOBOL'SKII, I. P.
Kalii. Moskva, 1944. [illegible]2 p. (Akademiia Nauk SSSR. Pochvennyi institut im.
V. V. Dokuchaeva) DLC: S647.S4

SO: LC Soviet Geography, Part I, 1951, Uncl.

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

15

Methods of determining mobile potassium in carbonate soils. I. P. Serdobol'skiĭ. *Akad. Nauk S.S.S.R., Pochvennyĭ Inst. im. V. V. Dokuchaeva, Rukovodstvo dlya Polevykh i Lab. Issledovaniĭ Pochv 5, Sovremennye Agrokhim. Metody Issledovaniya Pochv* No. 1, 111-14 (1941).—A review of methods in use. J. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CR

Soils & Fertilizers - 15

Oxidation-reduction and alkaline-acid conditions for glei formation. I. P. Serdobol'skii. *Trudy Pochvennogo Inst. im. V. V. Dokuchaeva, Akad. Nauk S.S.S.R.* 31, 73-81 (1950).—From the isopleths obtained in the study on the relation of the oxidation-reduction potential to the reduction of Fe compds., in podzolized soils, it is concluded that at pH 6.2 it is necessary to have a lowering of the oxidation-reduction potential to 150-200 mv. Under these conditions the Fe becomes mobile. When it reaches a soil layer with a higher mv. value the Fe^{2+} turns to Fe^{3+} and ppts. S. suggests a modified equation of Kryukov and Avseevich (*C.A.* 28, 975^{1}). By using the oxidation-reduction potential values the glei process can be studied. J. S. Joffe

[illegible]

[illegible]

Oxidation-reduction conditions of solonchak meadow soils of the Fergan Valley. I. P. Serdobol'skiĭ and P. I. Shavrygin. *Trudy Pochvennogo Inst. im. V. V. Dokuchaeva, Akad. Nauk S.S.S.R.* 31, 82–90(1950).—Two areas, one slightly salinized and the other a strongly salinized soil, were investigated for the E_H values. Eleven measurements were made in the field, before and after irrigating, between June 17 and September 6. Each test covered 9 layers in the profile, down to a depth of 130 cm. In all, 300 E_H, pH, and H_2O detns. were made. With the natural rainfall the mv. value throughout the summer varied from 460 for the more saline soil and 430 for the less saline soil. Twenty-four hrs. after irrigation the mv. value dropped from 460 to 300 and as low as 250. After 13-15 days the value went back to the original. With the lowering of the mv. value the NO_3 content dropped. The isopleths of Mn and Fe showed a huge increase of these elements after irrigation, more than 1000 times of Fe and tens of thousands of Mn. Since in the dry state the Fe and Mn were extremely low the increase was not so significant. In the layer near the water table the concn. of sol. Mn may reach 5–10 mg/l., and of Fe 0.001–0.01 mg./l.

J. S. Joffe

Soils & Fertilizers - 15

The influence of soil conditions on the transformation of manganese compounds in the soil. I. P. Serdobol'skii. *Trudy Pochvennogo Inst. im. V. V. Dokuchaeva, Akad. Nauk S.S.S.R.* 33, 192-216(1950).—It is shown that the soly. of the hydrates of any element, including Mn, which has a variable valence cannot be detd. from the soly. const. S. presents the isopleths of the soly. of $Mn(OH)_2$ which show the relation of the concn. of Mn ions to pH and E_H of the soln. An analysis of the isopleths of Mn and Fe shows that their simultaneous pptn. can be readily explained by physicochem. reactions instead of by microbiol. activity. It is brought out that under conditions of anaerobosis Mn phosphates become more available. The effect of the oxidation-reduction potential on release or tying up of Mn was demonstrated in pot cultures where plants were grown. By increasing the E_H the availability of the Mn decreased and vice versa.

J. S. Joffe

[illegible], I. I.

Soils

Computing the complexity of soil cover. Pochvovedenie no. 8, 1952.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, November 1952. Uncl.

SERDOBOL'SKIY, I.P.

Khimiya Pochvy (Soil Chemistry) Moskva, Izd. Akademii Nauk SSSR, 1953.
173 P. Illus., Diagrs., Ports., Tables.
"Literatura": P. 172-(174)
At Head of Title: Akademiya Nauk SSSR. Pochvennyy Institut.

SO: N/5
632.892
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SERDOBOL'SKIY, I.P.; SINYAGINA, M.G.

Oxidation-reduction conditions of chernozem soil aggregates. Pochvovedenie '53, No.1, 26-32. (MLRA 6:2)
(CA 47,no.14:7142 '53)

SERDOBOL'SKIY, I.P.

Base-acid conditions for the formation of soluble organic compounds of manganese. I. P. Serdobol'skii and M. G. Sinyagina. *Pochvovedenie* 1953, No. 8, 42-50.—By using the polarographic method, base-acid conditions were studied on the formation of sol. Mn compds. with citric, acetic, oxalic, and humic acid. At soil pH values 6.1-7.8, no sol. compds. of Mn with these acids were formed. At pH 8.0-8.5 some compds. did form. At pH 10.2 almost all of the Mn has combined with the acids. Thus, under the conditions described no Mn may move in the forms noted unless the pH is above 8.5. I. S. Joffe

SERDOBOL'SKIY, I.P.

SOKOLOV, A.V.; SERDOBOL'SKIY, I.P.; TYURIN, I.V., akademik, otvetstvennyy redaktor; MARKOV, V.Ya., redaktor; ASTAF'YEVA, G.A., tekhnicheskiy redaktor

[Use of phosphorus isotopes in agrochemical research] Primenenie izotopa fosfora v agrokhimicheskikh issledovaniiakh. Moskva, Izd-vo Akademii nauk SSSR, 1954. 61 p. (MLRA 7:10)
(Agricultural chemistry)
(Phosphorus--Isotopes)

SERDOBOL'SKIY, I. P.

USSR/Agriculture - Biology, Exchange Absorption of Phosphates by Soils FD 286

Card 1/1

Author : Serdobol'skiy, I. P. and Sinyagina, M. G.

Title : Concerning exchange absorption of phosphates by soil

Periodical : Izv. AN SSSR. Ser. biol. 3, 113-119, May/Jun 1954

Abstract : P32 tracer atoms were used to determine exchange of phosphates in black earth, moderately podsol earth, sierozem, and terra rossa. It was found that exchange reactions are normal for most soils; they accompany absorption reactions of phosphates by soils. Only terra rossa exhibited complete absense of exchange even when 200 milligrams of phosphate (on the basis of P_2O_5 was added for each 100 hectares of soil. In comparison with absorption, exchange reactions are of secondary significance: they form anywhere from 2-3% up to 20-25% of absorption of phosphates by soils. Six tables.

Institution : Soil Institute imeni V. V. Dokuchayev, Academy of Sciences USSR

Submitted : December 1, 1952

SERDOBOL'SKIY, I. P.

2000

The reactions of anion exchange. I. P. Serdobol'skii. *Pochvovedenie* 1955, No. 7, 67-73.—Apatite and chemically pure phosphates of Fe, Al, and Ca, 1 g. each, were shaken with 100 ml. of a soln. of Na phosphate contg. tagged P^{32}. After 2 hrs. of shaking the flasks were left undisturbed until the next day, and P was detd. on an aliquot. Total P was detd. colorimetrically on the ext., and the quantity of tagged P detd. by its activity. If no change in total P was apparent, the exchangeable P was detd. by the residual activity. The data show that there was a difference of only 5% P in the ext. of the treated $FePO_4$. There was an exchange between the tagged P and the P of the prepd. $FePO_4$. With an increase in P of the original extn. soln., up to 100 mg. in 100 ml., the exchange of P was as high as 50%. The exchangeable P in apatite was low. In the case of $Ca_3(PO_4)_2$ the exchangeable P was higher. From the point of view of equil. reactions, equations were set up based on the data on the variation of P in the extg. soln. With every soln. used a portion of the regular phosphate ions enters the soln. and is in equil. with the tagged phosphate. When the phosphate is pptd., the concn. of the tagged P in the ppt. is proportional to its concn. in the soln. The repeated reactions of soln. and pptn. bring about a decrease of tagged P in the soln. and an increase of regular P. The reaction is completed when the quantity of pptd. tagged P is equal to the quantity of the tagged P in soln. J. S. Joffe

SERDOBOL'SKIY I.P.

SERDOBOL'SKIY, I.P.

Chemical theory of cation exchange [with summary in English]. Pochvovedenie no.6:24-34 Je '57. (MLRA 10:9)

1. Pochvennyy institut imeni V.V. Dokuchayeva.
(Soil chemistry) (Cations)

SOV/69-21-2-1/22

5(4)

AUTHOR: Serdobol'skiy, I.P.

TITLE: The Seventieth Birthday of Ivan Nikolayevich Antipov-Karatayev (K semidesyatiletiyu so dnya rozhdeniya Ivana Nikolayevicha Antipova-Karatayeva)

PERIODICAL: Kolloidnyy zhurnal, 1959, Nr 2, pp 137-138 (USSR)

ABSTRACT: This is an appreciation of the scientific and educational activities of the Member of the AS of the Tadzhik SSR, Professor Ivan Nikolayevich Antipov-Karatayev, published on the occasion of his seventieth birthday in 1958. In 1926 the scientist completed his studies at Moscow university, and since that time he has worked at the Pochvennyy institut (Soil Institute) of the AS USSR as chief of the laboratories of the physics and chemistry of soils and soil colloids. He has published more than 270 works concerning various problems of soil science, agronomy and colloid chemistry. He has particularly distinguished himself in the field of the physics and chemistry of soil colloids. His monography "Pochvennyye kolloidy i metody ikh izucheniya"

Card 1/3

SOV/69-21-2-1/22

The Seventieth Birthday of Ivan Nikolayevich Antipov-Karatayev

("Soil Colloids and Methods to Study Them") summarizes his investigations in this direction. His efforts to find new methods in the investigation of the qualities of the soil (methods of electrodialysis and electrolysis of soils, of the sorption of steams and gases by soils etc) are also remarkable. The most important of these methods were published in the monography "Sovremennyye metody issledovaniya fiziko-khimicheskikh svoystv pochv" ("Modern Methods to Investigate the Physico-Chemical Qualities of the Soils"). Among his further investigations, those concerning soil structure and the use of the method of ion exchange for the establishment of the absorbing qualities of the soil deserve special mentioning. Much of his work was also dedicated to the problem of saline soil amelioration. His, and his collaborators' experiences in this field were laid down in the monography "Melioratsiya solontsov v SSSR" ("Amelioration of Saline Soils in the USSR"). The scientist also developed a great activity in the educational and organizational

Card 2/3

SOV/69-21-2-1/22

The Seventieth Birthday of Ivan Nikolayevich Antipov-Karatayev

field. He is a member of several learned organizations, collaborator of some journals and repeatedly has been awarded the Order of the Red Banner of Labor and medals. There is 1 photo.

Card 3/3

SOKOLOV, A.V., doktor sel'skokhoz.nauk, otv.red.; ASKINAZI, D.L., otv.red.; SERDOBOL'SKIY, I.P., kand.sel'skokhoz.nauk, otv.red.; MARKOV, V.Ya., red.izd-va; SIMKINA, Ye.N., tekhn.red.; GUS'KOVA, O.M., tekhn.red.

[Agrochemical methods of soil research; manual for field and laboratory investigations] Agrokhimicheskie metody issledovaniia pochv; rukovodstvo dlia polevykh i laboratornykh issledovanii. Izd.3., perer. i dop. Moskva, 1960. 555 p. [___Album of colored drawings for plant nutrition diagnosis; supplement to K.P. Magnitskii's article] ___Al'bom tsvetnykh risunkov po diagnostike pitaniia rastenii. Prilozhenie k stat'e K.P.Magnitskogo. 1960. (MIRA 14:3)

1. Akademiya nauk SSSR. Pochvennyy institut im. V.V.Dokuchayeva. (Soil research)

SERDOBOL'SKIY, I.P.; KHEYFETS, D.M.; FEDOROVSKIY, D.V.; SOKOLOV, A.V., doktor sel'khoz. nauk, otv. red.; SHKONDE, E.I., kand. sel'khoz. nauk, otv. red.; PAVLOV, A.N., red. izd-va; RYLINA, Yu.V., tekhn. red.

[Agrochemical characteristics of the soils in the U.S.S.R.] Agrokhimicheskaia kharakteristika pochv SSSR. Moskva, Vol.2. [Areas in the Central Chernozem Belt and the Moldavian S.S.R.] Raiony TSentral'noi chernozemnoi polosy i Moldavskoi SSR. 1963. 261 p. (MIRA 16:7)

1. Akademiya nauk SSSR. Pochvennyy institut im. V.V.Dokuchayeva. (Central Chernozem Region--Soils) (Moldavia--Soils)

Ivan Pavlovich Serdobol'skii (1893-1963). Koll.zhur. 25 no.6:747 N-D '63.
(MIRA 17:1)

S/169/61/000/012/022/039
D228/D305

AUTHORS: Ryabinkin, L. A., and Serdobol'skiy, L. A.

TITLE: The seismic surveying of structures for underground gas reservoirs

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1961, 29, abstract 12A281 (V sb. Razvitiye gaz. prom-sti SSSR. M., Gostoptekhizdat, 1960, 338-344)

TEXT: An example is described of application of the method of controllable directed reception (CDR) during the seismic surveying of structures for underground gas reservoirs at the eastern edge of the Russian Platform. A laboratory modification of CDR was used to decipher seismic material obtained in the Ketovo and Ubezhitsa areas of the Gorkiy region. For the Ketovo area, a more complete section was successfully obtained by means of CDR than was the case with the data of usual seismic survey-

Card 1/2

SERDOBOL'SKIY, L.A.

Using the controlled directional sensitivity method in the Moscow region of the Russian Platform. Razved. i prom. geofiz. no.51:24-38 '64. (MIRA 17:11)

RAMAZANOVA, S.M.; SERDOBOL'SKIY, L.A.

Test seismic operations prior to using the controlled directional method in Tajikistan. Trudy MINKHiGP no.50:86-99 '64

(MIRA 18:2)

SERDOBOL'SKIY, V. I.

AUTHOR: Serdobol'skiy, V.I. 56-5-31/46

TITLE: Application of the Dispersion Relations for the Determination of Bound States (Primeneniye dispersionnykh sootnosheniy dlya opredeleniya svyazannykh sostoyaniy)

PERIODICAL: Zhurnal Eksperim. i Teoret.Fiziki, 1957, Vol. 33, Nr 5, pp. 1268-1270 (USSR)

ABSTRACT: Within the framework of the nonrelativistic theory the dispersion relations are dealt with theoretically. It is shown that in this way the energy, parity and the (spectral) coefficients of bound states of the system can be determined by experimental scattering data. By making use of the data for the scattering of neutrons by protons ($E_n \leqslant 70$ MeV) and by application of the dispersion relations, the following data for the deuteron are obtained: $R_D = 4,314.10^{-13}$ cm (radius of the deuteron), γ_1 (spectral coefficient) is about equal for all energies (1,2 and 5 MeV), viz. $(7,5 \pm 0,4).10^{12}\text{cm}^{-1}$. There is 1 non-Slavic reference.

ASSOCIATION: Physics Institute imeni P.N.Lebedev AN USSR (Fizicheskiy institut im.P.N.Lebedeva Akademii nauk SSSR)

SUBMITTED: May 14, 1957

AVAILABLE: Library of Congress

Card 1/1

On the Theory of Scattering Via Quasistationary States SOV/56-36-6-39/66

a continuous spectrum which describes S-scattering is expanded into a series in terms of such a set of wave functions. The validity of the expansion is demonstrated by investigating the analytical properties of the solution $\psi(x,k)$ on the basis of the Schrödinger equation $(d^2/dx^2 + k^2)\psi = V\psi$, V is the interaction operator, k - a complex quantity. The boundary conditions are assumed to be $\psi(0,k) = 0$, $\psi(x,k) - \sin kx \sim e^{ikx}$ with $x > x_0$, and the symmetry properties are: $\psi(x,k) = -S(k)\psi(x,-k)$, $\psi(x,k) = -\psi^*(x,-k^*)$. $S(k) = e^{2i\delta}$ is the onedimensional scattering matrix. The dispersion formulas deduced in the last chapter of this paper are found to be more convenient for expressing the dependence of the cross section on energy than those deduced in earlier papers. The dispersion formula (S-scattering cross section) is:

$$\sigma(k) = \sigma_0(k) + \frac{4\pi}{E}\sum_{\lambda}^{(1/2)} \frac{\Gamma_\lambda/2}{(E-|E_\lambda|)^2 + \Gamma_\lambda^2/4}\left[\frac{\Gamma_\lambda}{2}\cos 2kx_0 - (E-|E_\lambda|)\sin 2kx_0\right] \quad (24)$$

It shows that if a stationary wave within the nucleus covers the entire range $x < x_0$, the potential part of scattering corresponds

Card 2/3

On the Theory of Scattering Via Quasistationary States SOV/56-36-6-39/66

exactly to the scattering on an impenetrable sphere having the radius x_0. There are 6 references, 2 of which are Soviet.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute imeni P. N. Lebedev of the Academy of Sciences, USSR)

SUBMITTED: January 23, 1959

Card 3/3

85698

S/056/60/038/006/041/049/XX
B006/B070

24.4500

AUTHOR: Serdobol'skiy, V. I.

TITLE: Dispersion Formulas for Overlapping Levels

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp. 1903 - 1906

M

TEXT: The object of the work was to derive dispersion formulas in the framework of a theory in which the S-matrix is linear with respect to resonances. The theory was developed by the author in Ref.3. It is possible, in principle, to derive dispersion formulas for overlapping levels in the framework of the theory of Wigner's R-matrix. There appear, however, algebraic difficulties in the derivation, and the final formulas are very complicated. Therefore, the author proposed to derive a formula on his theory in such a way that the disadvantages mentioned above are avoided. In this modified theory, the resonance part of the S-matrix is represented as a simple sum over the resonance levels which are responsible for the formation of the compound nucleus. The remaining (continuous) part of the S-matrix varies little in the energy interval of the

85698

Dispersion Formulas for Overlapping Levels S/056/60/038/006/041/049/XX
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order of the resonance level widths if $\Gamma \ll |E - E_{thresh}|$, where E_{thresh}, the threshold energy, is only slightly different from E. For these energies, the dispersion formula has the form $S^J_{c'c} = (S^J_{c'c})_{cont} + 2i \sum_\lambda \frac{u_{\lambda c'} u_{\lambda c}}{E_\lambda - E}$; c' and c denote the totality of the quantum numbers αslJM; $u_{\lambda c} = \Omega_c P_c^{1/2} \gamma_{\lambda c}$; $u_{\lambda c}$ and $\gamma_{\lambda c}$ are complex. In the approximation $\Gamma_\lambda / |E - E_{thresh}| \ll 1$, $\Gamma_\lambda = 2 \sum_c |u_{\lambda c}|^2 = -2N_\lambda \mathrm{Im} E_\lambda$; $N_\lambda \geqq 1$. It is now shown how this dispersion formula can be obtained from the Kapur-Peierls theory (Ref.4) when the conditions given are fulfilled, that is, how the indefinite phase shifts $\gamma_{\lambda c}$ of the complex reduced half-widths can be calculated in the general form on the basis of the S-matrix unitarity condition. Cases are considered when an isolated level corresponding to compound nucleus formation exists in the optical resonance region, or when two levels of the compound nucleus overlap, or when a set

Card 2/3

85698

Dispersion Formulas for Overlapping Levels

S/056/60/038/006/041/049/XX
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of weakly overlapping levels exists in the optical resonance region (calculated in the approximation $\Gamma/D \ll 1$). It is assumed in all calculations that the levels of the compound nucleus are not overlapped by the nuclear reaction thresholds. Professor A. S. Davydov is thanked for interest and advice. There are 4 references: 1 Soviet, 2 US, and 1 British.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Institute of Physics imeni P. N. Lebedev of the Academy of Sciences USSR)

SUBMITTED: February 18, 1960

X

Card 3/3

SERDOBOL'SKIY, V. I.

Cand Phys-Math Sci - (diss/ "Studies on the theory of resonance nuclear reactions." Moscow, 1961. 11 pp; (Ministry of Higher and Secondary Specialist Education USSR, Moscow State Univ imeni Lomonosov, Scientific Research Inst of Nuclear Physics); number of copies not given; price not given; (KL, 6-61 sup, 195)

SERDOBOL'SKIY, V.I.

Dispersion formulas which take optical interaction into account. Zhur. eksp. i teor. fiz. 40 no.2:590-596 F '61.
(MIRA 14:7)

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR.
(Nuclei, Atomic)

SERDOBOL'SKIY, V.I.

Induced emission in a strong electromagnetic field. Zhur.eksp.i teor.fiz. 43 no.6:2114-2121 D '62. (MIRA 16:1)

1. Fizicheskiy institut imeni Levedeva AN SSSR.
(Quantum theory)

L 1979-66 EWT(m)/T/EWA(m)-2

ACCESSION NR: AT5018596

UR/2504/65/033/000/0172/0198

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B+1

AUTHOR: Serdobol'skiy, V. I. 44,55

TITLE: Quantum-mechanical principles of the theory of nuclear reactions 19,44,55

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 33, 1965. Issledovaniye atomnogo yadra s pomoshch'yu zaryazhennykh chastits i neytronov (Investigation of the atomic nucleus using charged particles and neutrons), 172-198

TOPIC TAGS: nuclear physics, nuclear reaction, compound nucleus, quantum theory, nuclear resonance

ABSTRACT: Both major trends of the theory are reviewed, namely the formal scattering theory, using integral operators and Green's functions, and the formal theory of resonant nuclear reactions. Since the fundamentals of the scattering theory have been developed in many papers which are widely dispersed in the literature, the author first describes the apparatus of formal collision theory, presents a systematic and practically complete exposition of its principles, and gives the most essential formulas needed for the calculations. The resonant nuclear reactions are treated by the procedure of expanding the intermediate-state Green's functions in terms of the resonances, called the unified theory of nuclear reactions (H. Feshbach, Ann. of Phys. v. 5, 357-390, 1958; A. Agodi and E. Eberle,

Card 1/2

L 1979-66

ACCESSION NR: AT5018596 3

Nuovo Cim. v. 18, 718, 1960; V. I. Serdobol'skiy, ZhETF v. 40, 590, 1960). In addition to reviewing the past work, the author adds his own contribution in the form of a theory of averaging over the resonances of the compound nucleus, in which a connection is established between the resonances and various optical effects in the nucleus, and which accounts for resonances at both strong and weak energies. Orig. art. has: 2 figures and 128 formulas.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute, AN SSSR) 44,55

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 019 OTHER: 006

Card 2/2

USSR/Nuclear Physics - Structure and Properties of Nuclei C-4

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 467

Pd (n, γ) reaction, and has proved its genetic connection with Pd^{111} and Ag^{111}. According to the data of this experiment, the lower limit of the coefficient of internal conversion was determined for the transition $Pd^{111*} \longrightarrow Pd^{111}$ ($\alpha \geqslant 0.25$). A study of the kinetics of the accumulation of Ag^{111} in specimens of irradiated Pd has made it possible to determine the relative yield of Pd^{111*} and Pd^{111} in the reaction (n, γ). It was found that $\sigma Pd^{111}/\sigma Pd^{111*} = 22$.

Card 3/3

S/069/63/025/002/001/010
A057/A126

AUTHORS: Avgul', N.N., Kiselev, A.V., Lopatkin, A.A., Lygina, I.A., Serdobov, M.V.

TITLE: Nature of adsorption by zeolites. Heat of adsorption of benzene and n-hexane vapors by zeolite type 13 X (13Kh)

PERIODICAL: Kolloidnyy zhurnal, v. 25, no. 2, 1963, 129 - 135

TEXT: The differential adsorption heats of benzene and n-hexane vapors on 13Kh zeolite crystals were measured calorimetrically. The measured adsorption heats are approximately twice as high as the corresponding heats of condensation. The initial heat of adsorption of benzene is by about 3 kcal/mole higher than that of n-hexane. Little change was observed in the heat of adsorption of benzene with the degree of adsorption, while a considerable rise occurs for n-hexane. This observation was made also with graphitized soot and explained by the interaction of the n-hexane molecules in the adsorption layer of the non-polarized soot surface. Discussing the possible arrangements of the benzene and n-hexane molecules in larger cavities of the zeolite, the authors state: There

Card 1/3

Nature of adsorption by zeolites. Heat of S/069/63/025/002/001/010
A057/A126

are four sites in the cavity walls having cations in their centers which are favorable for the localization of benzene molecules. It can be assumed that the stretched and flexible n-hexane molecules depend less on the position of these cations. Hence, the adsorption of n-hexane is less localized in comparison to benzene. The adsorption on zeolites, however, is highly affected by the geometric and electronic structure of the adsorbed molecules, the geometry of the cavities, and the nature of the electric field of the adsorbent. The packing of molecules of the adsorbate in the zeolite cavities differs, therefore, from their packing in the liquid state. Thus Polyani's potential theory of adsorption cannot be applied to the adsorption of hydrocarbon vapors by zeolites. The state and packing of hydrocarbon molecules in zeolite cavities will find further explanations by experiments with n-alkanes with molecules of different lengths and their substitutes with various functional groups, plane molecules, and different electron structure, as well as adsorption experiments with small molecules (nitrogen, argon) after adsorption of highly adsorptive large molecules, which are loosely filling the cavities. There are 4 figures.

ASSOCIATION: Moskovskiy universitet, Khimicheskiy fakul'tet (Moscow University,

Card 2/3

Nature of adsorption by zeolites. Heat of S/069/63/025/002/001/010
A057/A126

Chemical Department); Institut fizicheskoy khimii AN SSSR, Gruppa khimii poverkhnosti (Institute of Physical Chemistry of the AS USSR, Team for Surface Chemistry)

SUBMITTED: July 12, 1962

Card 3/3

KISELEV, A.V.; SERDOBOV, M.V.

Isotherms and differential heats of adsorption of n-hexane, benzene, and carbon tetrachloride vapors on polytetrafluoroethylene (teflon). Koll.zhur. 25 no.5:543-548 S-O '63. (MIRA 16:10)

1. Institut fizicheskoy khimii AN SSSR, Moskva.

KISELEV, A.V.; SERDOBOV, M.V.

Some characteristic correlations between the differential heats of adsorption of benzene, carbon tetrachloride, methylcyclohexane, and perfluoromethylcyclohexane and the filling of the surface of a fraphitized carbon black. Zhur. fiz. khim. 37 no.11: 2589-2592 N'63. (MIRA 17:2)

1. Institut fizicheskoy khimii AN SSSR.

OCHUR, V.Ch.; ROVNOV, V.I.; SERDOBOV, N.A.; BROYAKOV, S.Ch.;
KHARLAMOV, V.A.; SERDOBOV, N.A., red.

[Kyzyl, capital of Soviet Tuva, 1914-1964] Kyzyl - Stolitsa Sovetskoi Tuvy (1914-1964). Kyzyl, Tuvinskoe knizhnoe izd-vo, 1964. 127 p. (MIRA 17:6)

1. Kyzyl. Tuvinskiy nauchno-issledovatel'skiy institut yazyka, literatury i istorii.

SERDOBOV, V.A., dotsent, kand. tekhn. nauk

Controlling water seepage from bodies of water in the Central Chernozem Region. Trudy VNIIGiM 42:45-51 '63.

(MIRA 17:6)

SERDOBOVA, L.I.; LIZUNOV, N.V., otv. red.; SHILLER, V.A., otv. za vypusk

[Spectrum determination of thallium and germanium in sulfide minerals] Spektrograficheskoe opredelenie talliia i germaniia v sul'fidnykh mineralakh. Moskva, 1960. 18 p. (Akademiia nauk SSSR. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov. Metodicheskie materialy, no.4) (MIRA 15:6)
(Thallium--Spectrum) (Germanium--Spectrum) (Sulfides)

BORISENKO, L.F.; SERDOBOVA, L.I.

Distribution of titanium, vanadium, chromium, and nickel in the ultrabasites of a platinum-bearing belt (Urals). Geokhimiia no.3:348-359 Mr '65. (MIRA 18:7)

1. Institute of Mineralogy, Geochemistry, and Crystallography of Rare Elements, Moscow.

SERDOBOVA, L.I.

Spectrographic determination of thallium and germanium in sulfide minerals. Rech. transp. 21 no.9:129-137 S '62. (MIRA 15:3)

(Thallium--Spectra) (Germanium--Spectra) (Sulfides)

SERDOBOVA, L.I.

Use of the DFS-10 photoelectric apparatus for the analysis of rock-forming elements. Zav. lab. 30 no.9:1085-1089 '64.
(MIRA 18:3)

1. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov.

SERDOBOVA, M.; KHOREV, B.

Conference on the study of small and medium-size cities of the Central Economic Region. Izv. AN SSSR Ser. geog. no.4: 165-166 '64 (MIRA 17:8)

SERDOTETSKIY, S.N.

137-58-4-8594

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 324 (USSR)

AUTHOR: Serdotetskiy, S.N.

TITLE: Discussions on Papers (at a Conference on the Use of Radioactive Isotopes in Ferrous Metallurgy) [Vystupleniya po dokladam (na konferentsii po primeneniyu radioaktivnykh izotopov v chernoy metallurgii)]

PERIODICAL: V sb.: Primeneniye radioaktivn. izotopov v chernoy metallurgii. Chelyabinsk, Knigoizdat, 1957, pp 214-215

ABSTRACT: Bibliographic entry. Ref. RzhMet, 1958, Nr 4, abstracts 8592-8593

1. Isotopes (Radioactive)--Metallurgical applications--Bibliography

Card 1/1

SERDTSEVA, A. G.

Serdtseva, A. G. -- "Outside Reading in Russian Literature among the Older Classes of the National School." Academy of Pedagogical Sciences RSFSR. Sci Res Inst of National Schools. Moscow, 1956. (Disseration For the Degree of Candidate in Pedagogical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

SERDULA, Ya.G.

Preventing water inrush in active coal-mine workings. Bezop. truda v prom. 6 no.2:3-4 F '62. (MIRA 15:2)

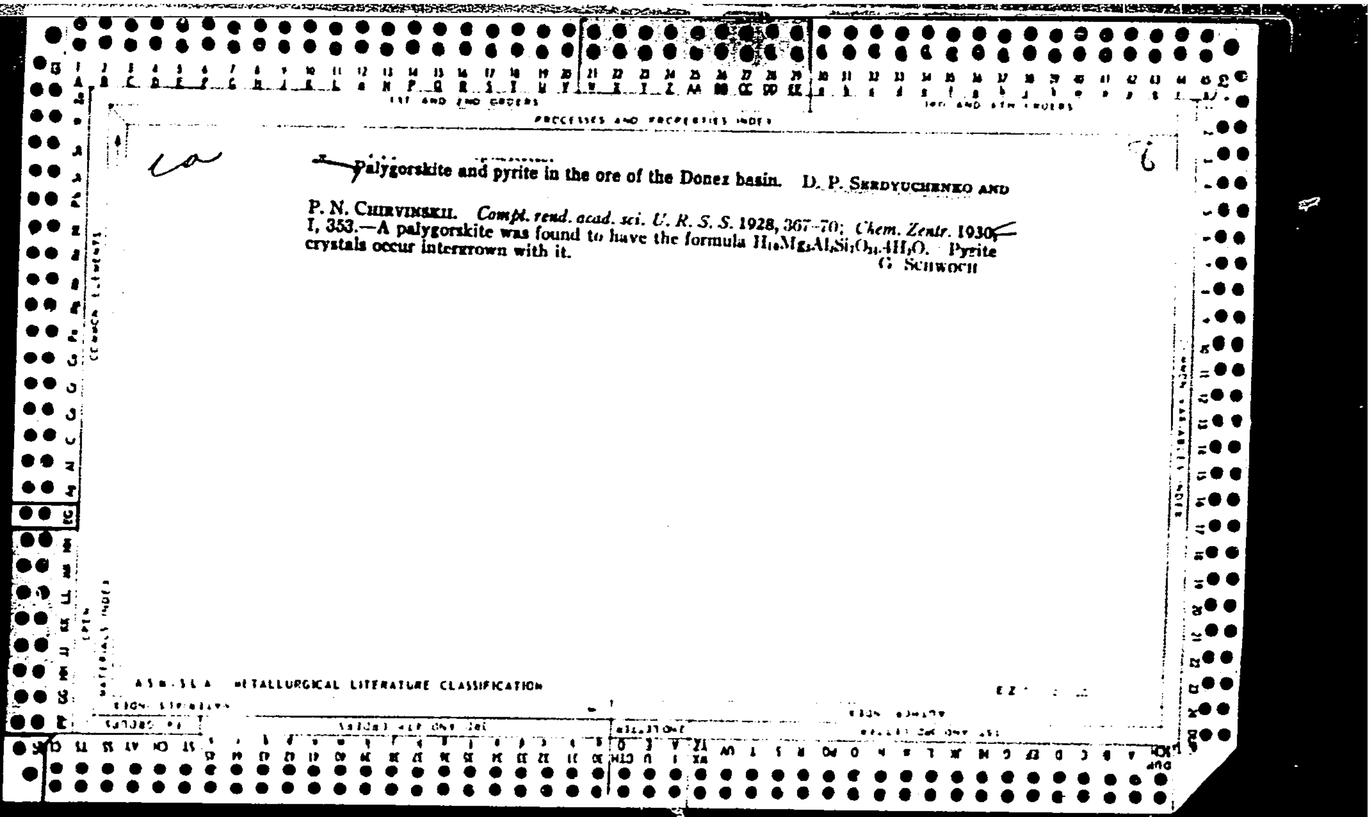
1. Glavnyy marksheyder Luganskogo sovnarkhoza.
(Lugansk Province--Mine water--Safety measures)

SERDTSEV, L., inzh.

Dudal potentiometers with equal laws of resistance charge.
Radio no.7:32 Jl '65. (MIRA 18:9)

SERDTSEV, N.S., slesar'

Method for reducing the temperature of the SD-09M motor. Energetik 13 no.1:28 Ja '65. (MIRA 18:3)



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

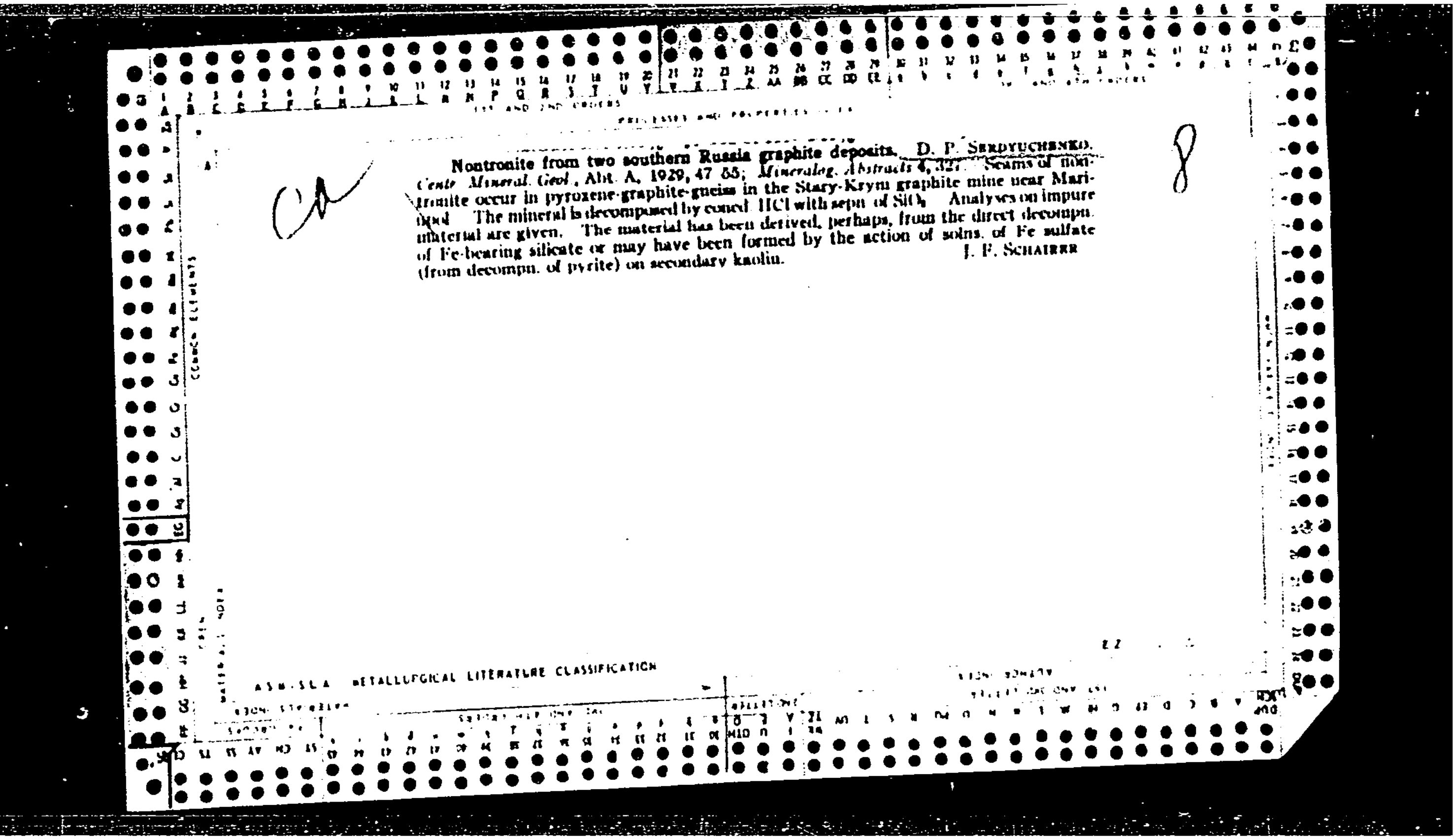
ca

6

Palygorskite and pyrite in the ore of the Donez basin. D. P. SERDYUCHENKO AND P. N. CHIRVINSKII. *Compt. rend. acad. sci. U. R. S. S.* 1928, 367-70; *Chem. Zentr.* 1930, I, 353.—A palygorskite was found to have the formula $H_{16}Mg_5Al_2Si_7O_{24}.4H_2O$. Pyrite crystals occur intergrown with it.

G. SCHWOCH

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Ca

8

Nontronite from two southern Russia graphite deposits. D. P. Serdyuchenko. *Centr. Mineral. Geol.*, Abt. A, 1929, 47-55; *Mineralog. Abstracts* 4, 327.—Seams of nontronite occur in pyroxene-graphite-gneiss in the Stary-Krym graphite mine near Mariupol. The mineral is decomposed by concd. HCl with sepn. of SiO_2. Analyses on impure material are given. The material has been derived, perhaps, from the direct decompn. of Fe-bearing silicate or may have been formed by the action of solns. of Fe sulfate (from decompn. of pyrite) on secondary kaolin.

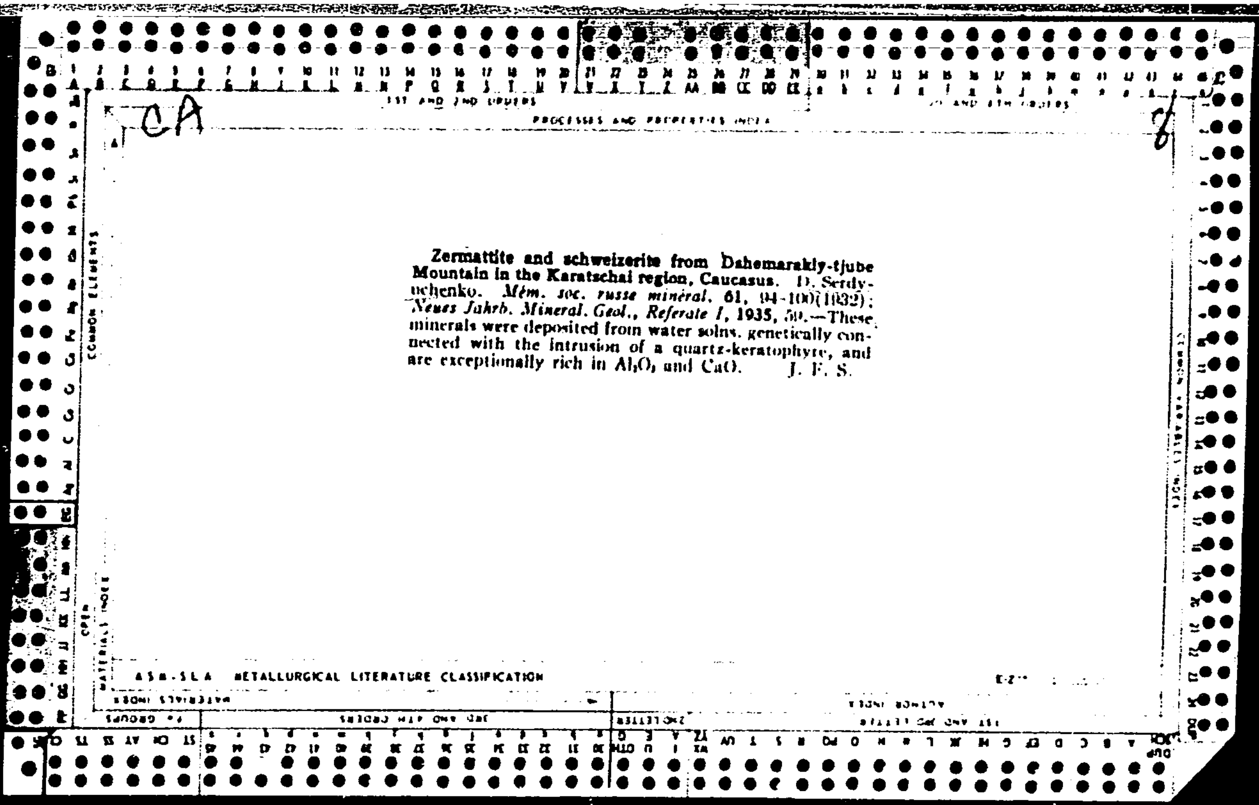
J. F. Schairer

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION
1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

SERDYUCHENKO, D P

8N/5
730
.S4

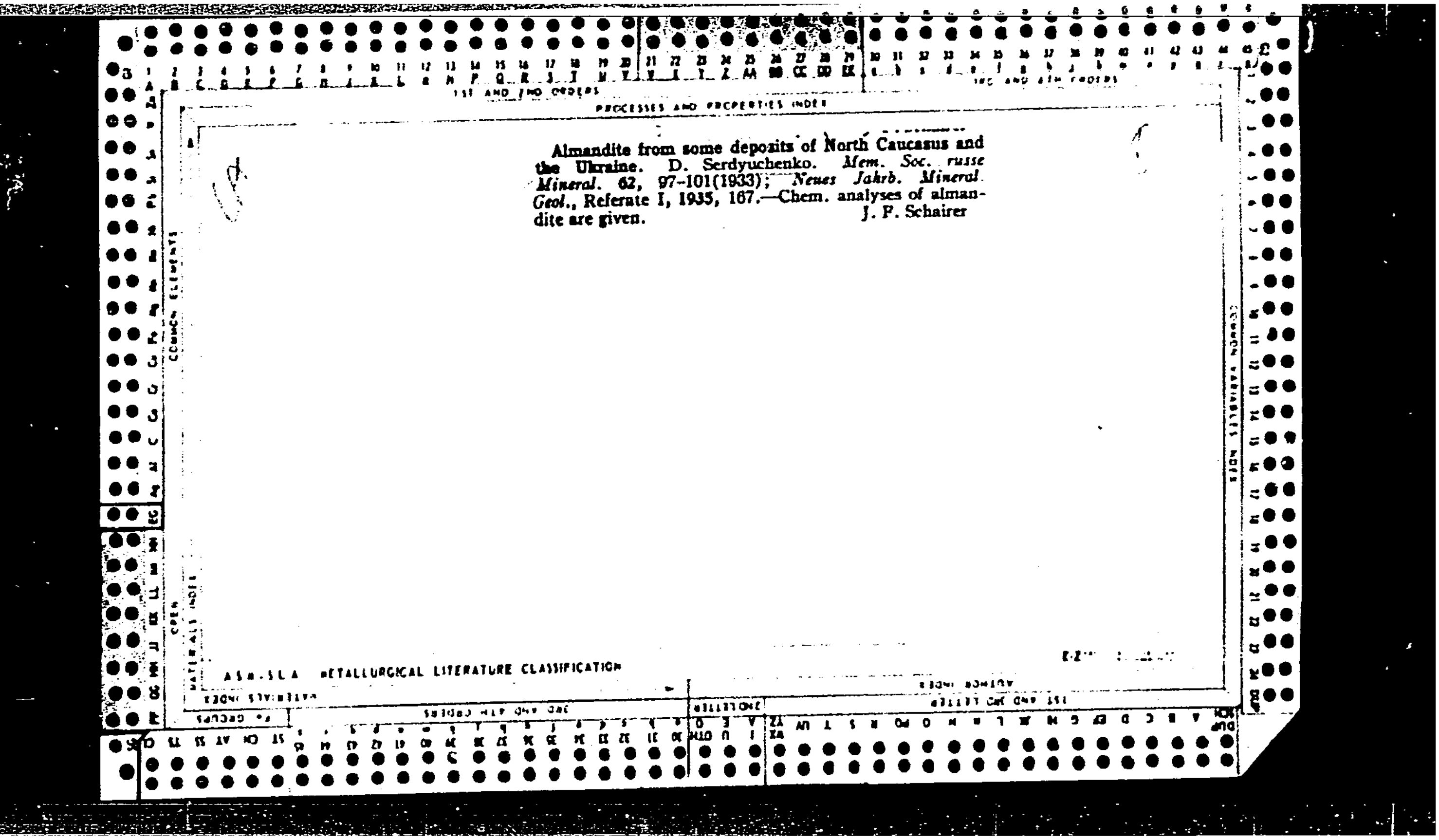
Poleznyye iskopaysmyye Severo-- Kavkazskogo Kraya i problema ikh prakticheskogo ispol'zovaniya (Available resources of the North Caucasus Kray and the problem of their practical use)
Rostov na Donu, Khigo. Izd-vo "Severnyy Kavkaz", 1932.
63 p. illus., diagrs.
AB 5121148
At head of title-page: Problemy Vtoroy Pyatiletki v Promyshelnnosti Sev Kavkaza.


1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
COMMON ELEMENTS
MATERIALS INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

6

Zermattite and schweizerite from Dahemarakly-tjube Mountain in the Karatschai region, Caucasus. D. Serdyuchenko. *Mém. soc. russe minéral.* 61, 94-100(1932); *Neues Jahrb. Mineral. Geol., Referate I*, 1935, 50.—These minerals were deposited from water solns. genetically connected with the intrusion of a quartz-keratophyre, and are exceptionally rich in Al_2O_3 and CaO. J. F. S.

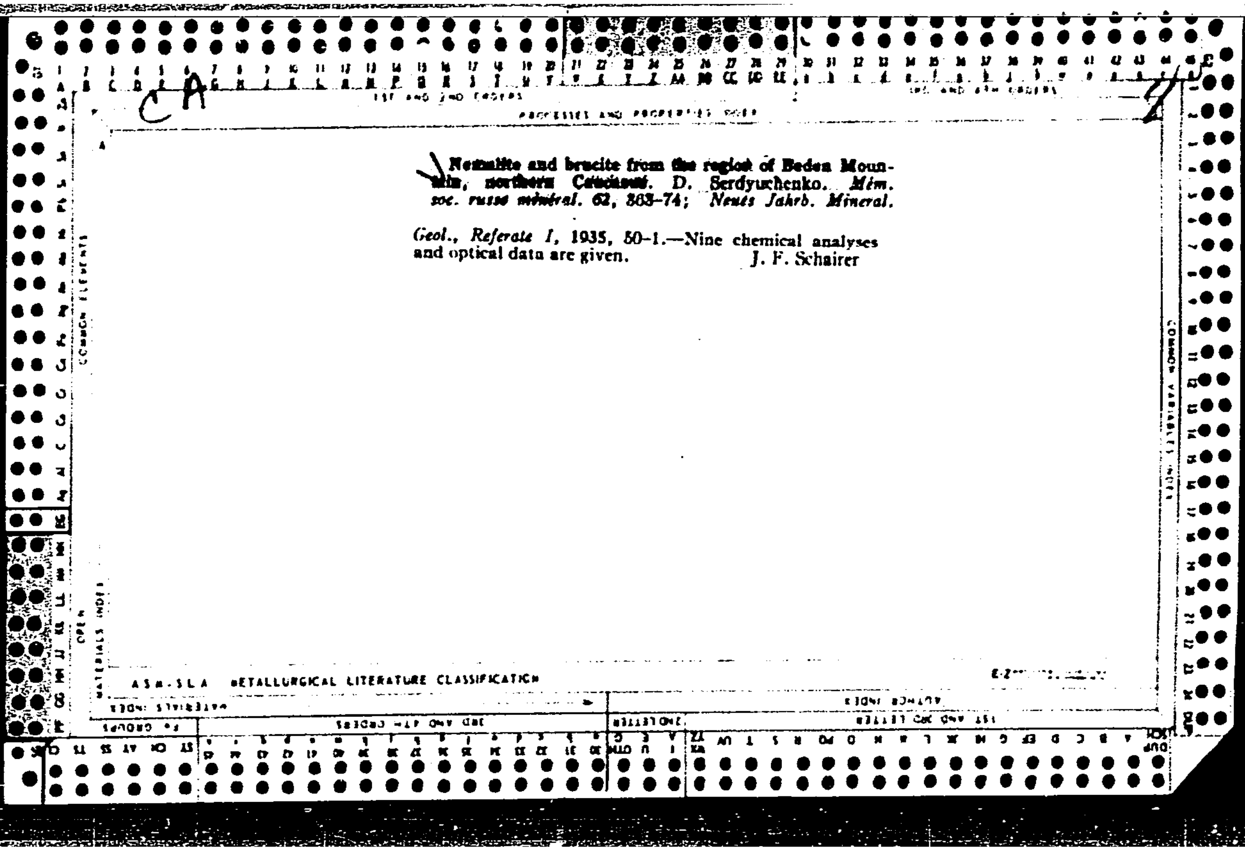


PROCESSES AND PROPERTIES INDEX

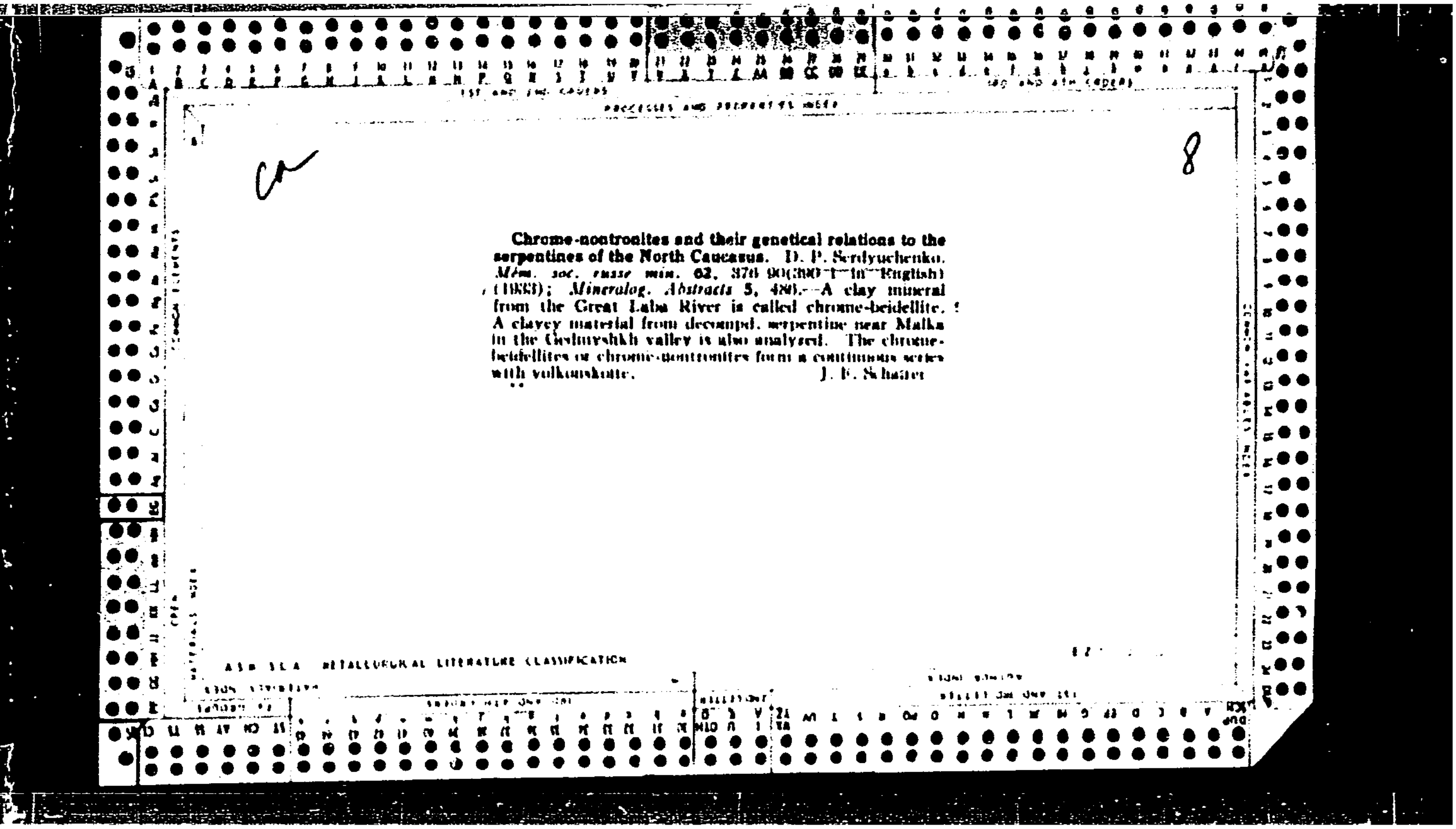
Almandite from some deposits of North Caucasus and the Ukraine. D. Serdyuchenko. *Mem. Soc. russe Mineral.* 62, 97-101(1933); *Neues Jahrb. Mineral. Geol.*, Referate I, 1935, 167.—Chem. analyses of almandite are given.

J. F. Schairer

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION


CA
1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Nemalite and brucite from the region of Beden Mountain, northern Caucasus. D. Serdyuchenko. *Mém. soc. russe minéral.* 62, 863-74; *Neues Jahrb. Mineral. Geol., Referate I,* 1935, 80-1.—Nine chemical analyses and optical data are given. J. F. Schairer


1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

8

Chrome-nontronites and their genetical relations to the serpentines of the North Caucasus. D. P. Serdyuchenko. *Mém. soc. russe min.* 62, 376-90(390-1 in English)(1933); *Mineralog. Abstracts* 5, 480.—A clay mineral from the Great Laba River is called chrome-beidellite. A clayey material from decompd. serpentine near Malka in the Gedmyshkh valley is also analyzed. The chrome-beidellites or chrome-nontronites form a continuous series with volkonskoite. J. F. Schairer

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

ca

8

The Stary Krym graphite-bearing region. D. P. Serdyuchenko. *Trans. All-Union Sci. Research Inst. Econ. Mineral.* (U. S. S. R.) 1935, 1-123; *Mineralog. Abstracts* 7, 149-50(1938).—The graphite is assocd. with garnet-pyroxene gneiss and is intergrown with the minerals thereof; this suggests a syngenetic origin from carbonaceous sediments. These were injected by an acid magma and by aplite and pegmatite veins which assimilated some of the surrounding gneiss and enclosed graphite. The nontronite and kaolinite are probably due to the action of the products of oxidation of graphite and pyrite on the silicates of the gneiss. A detailed description of the rocks and numerous analyses are given. C. A. Silberrad

COMMON ELEMENTS

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

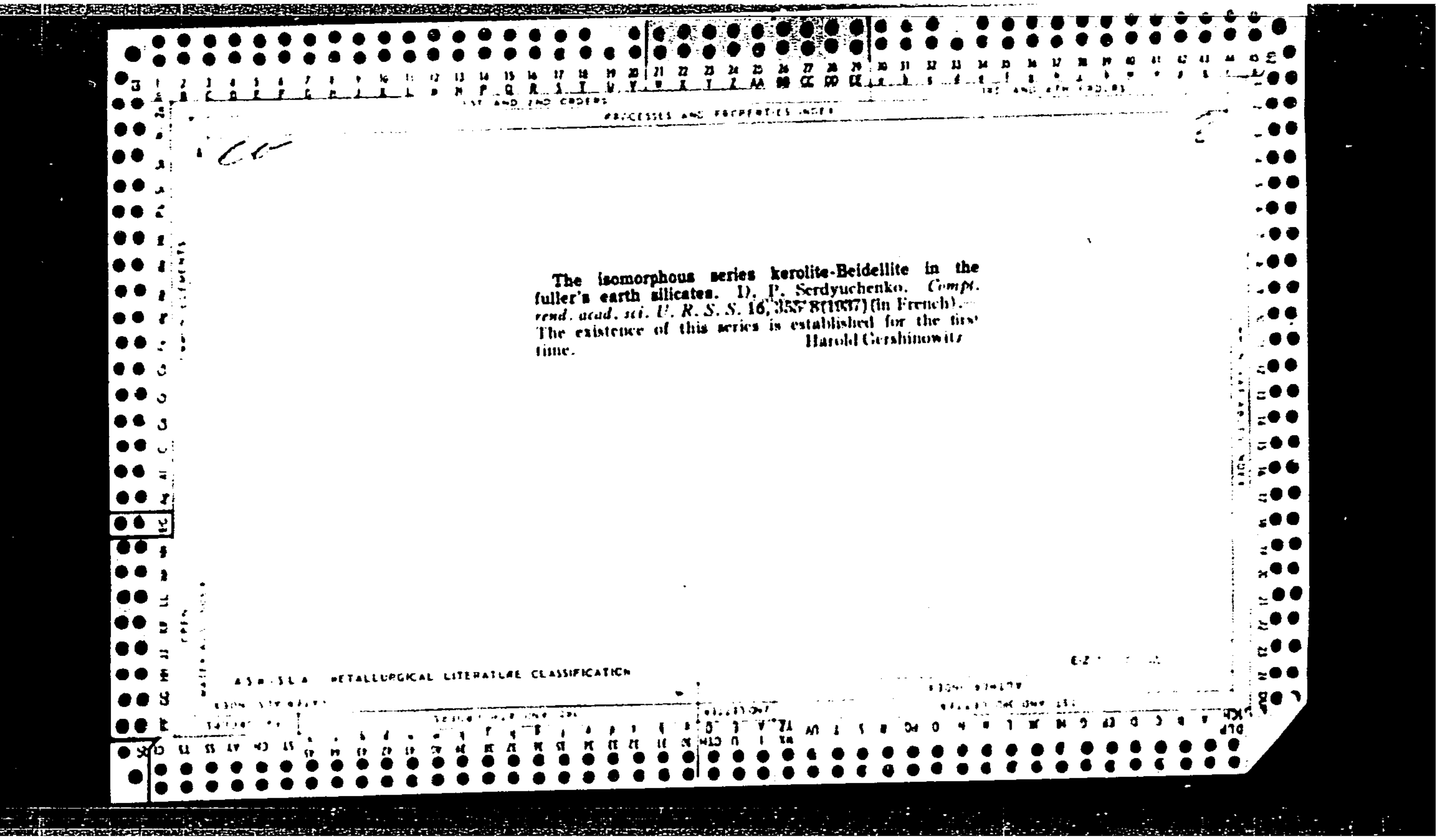
Ca

8

Picroamosite. D. P. Serdyuchenko. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat., Sér. géol.* 1936, 689-96; *Mineralog. Abstracts* 7, 9-10.—Picroamosite is a variety of orthorhombic amphibole. It occurs on the river Malaya Laba, N. Caucasus. It is fibrous, brittle, greenish gray, α 1.626, β 1.638, γ 1.651. Compn.: SiO_2 55.90, Al_2O_3 1.13, Fe_2O_3 8.28, FeO 0.68, MnO 0.49, MgO 20.26, CaO 0.94 and H_2O+ 8.20%. It is probably a result of the action of a granitic magma on serpentine rock.

C. A. Silberrad

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

The isomorphous series kerolite-Beidellite in the fuller's earth silicates. D. P. Serdyuchenko. *Compt. rend. acad. sci. U. R. S. S.* 16, 355-8(1937)(in French).—The existence of this series is established for the first time. Harold Gershinowitz

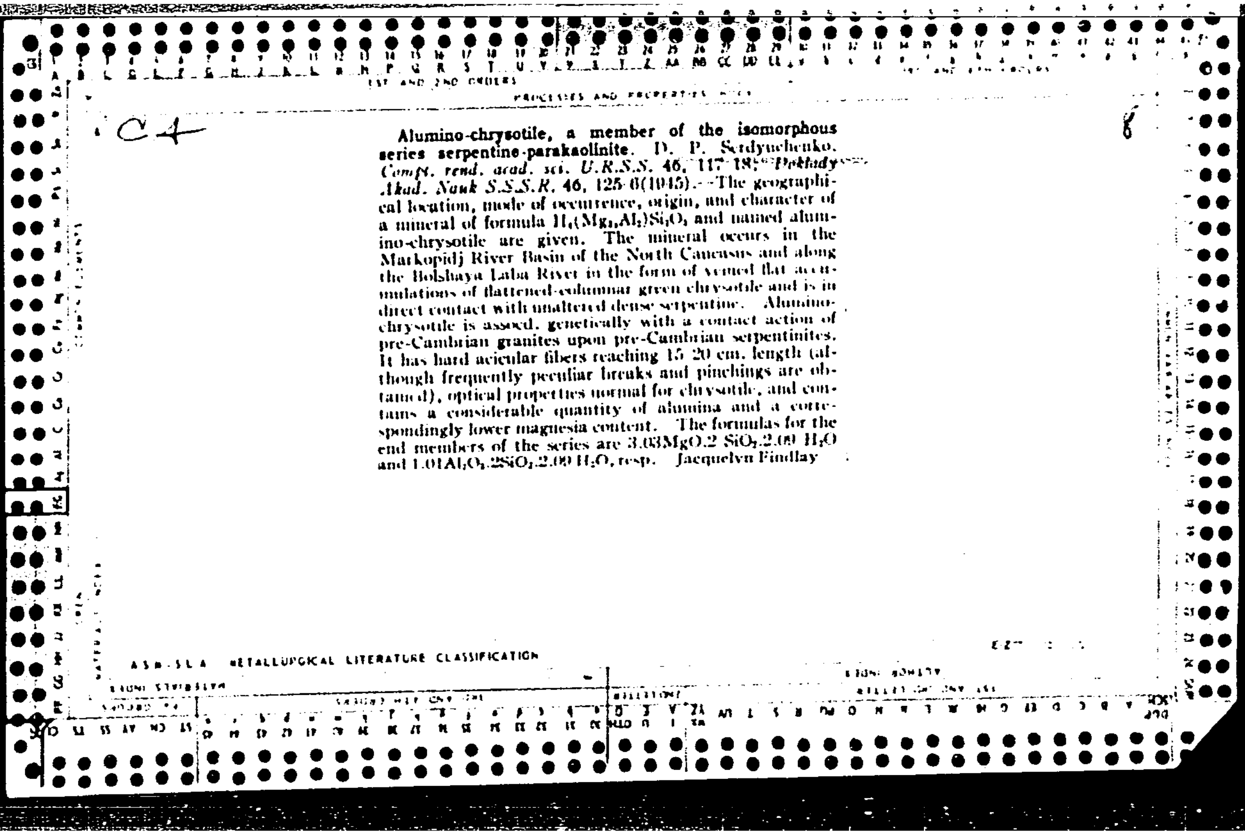
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Water of amphiboles. D. P. Serdyuchenko. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat., Ser. geol.* **1938,** 259-76(in English, 276-7). S. records the temp. effects from 100° to 900° on loss of H_2O from actinolites. From the loss of H_2O at the various temps. the presence of other substances can be judged. When amphiboles lose H_2O at the 100-400° interval it indicates the presence of Al_2O_3 and Fe_2O_3. If no H_2O is given off at 100-400° the amphiboles contain little R_2O_3. The optical properties of the amphiboles at various temps. are given. I. S. J.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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Alumino-chrysotile, a member of the isomorphous series serpentine-parakaolinite. D. P. Serdyuchenko. *Compt. rend. acad. sci. U.R.S.S.* 46, 117-18; *Doklady Akad. Nauk S.S.S.R.* 46, 125-6(1945).—The geographical location, mode of occurrence, origin, and character of a mineral of formula $H_4(Mg_3,Al_2)Si_2O_9$ and named alumino-chrysotile are given. The mineral occurs in the Markopidj River Basin of the North Caucasus and along the Bolshaya Laba River in the form of veined flat accumulations of flattened-columnar green chrysotile and is in direct contact with unaltered dense serpentine. Alumino-chrysotile is assocd. genetically with a contact action of pre-Cambrian granites upon pre-Cambrian serpentinites. It has hard acicular fibers reaching 15-20 cm. length (although frequently peculiar breaks and pinchings are obtained), optical properties normal for chrysotile, and contains a considerable quantity of alumina and a correspondingly lower magnesia content. The formulas for the end members of the series are $3.03MgO.2SiO_2.2.00H_2O$ and $1.01Al_2O_3.2SiO_2.2.00H_2O$, resp. Jacquelyn Findlay

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

CA

8

Chlorites from the diabases of Timan. D. P. Serdyuchenko. *Compt. rend. acad. sci. U.R.S.S.* 56, 833 (1947); *Chem. Zentr.* 1947, II, 1089; cf. C.A. 42, 7008*i*. These minerals are found in various forms within diabase minerals. The green or green brown specimens, which in part show an incompletely crystd. structure (usually a rounded form), are embedded in pyroxene plagioclase minerals. For the most part they represent genetically a series of magmatic residual formations, including palagonite, delessite, saponite, nontronite (ferrimontmorillonite), and others. They are distinguished by a high content in FeO and Na_2O. It is assumed that the chem. compn. of such later magmatic chlorites may serve as a criterion for detg. the magmatic unity or similarity of corresponding diabase-basalt minerals. M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PA 60T84

SERDYUCHENKO, D. P.

Jul 1947

USSR/Minerals
Quartz
Chlorides

"Chlorides From Some Northern Ural Quartz Veins," D. P. Serdyuchenko, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 2

Describes finding of chlorides in quartz veins uncovered in Vangyrskiy region of Northern Urals. Table shows chemical composition of chlorides found. Submitted by Academician D. S. Belyankin, 29 Jan 1947.

60T84

[redacted]

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CA

Magnesio-alumino hydrosilicates of isomorphous series serpentine-parakaolinite. D. P. Serdyuchenko. *Doklady Akad. Nauk S.S.S.R.* 58, 2039-42(1947).—In North Caucasus minerals were found whose compn. was intermediate between those of serpentine and parakaolinite, including chrysotile, picrolite, alumochrysotile, metaxite, greenalite, chlorite, and antigorite. All belong to an isomorphous series with substitutions: Al-Fe^{+++}-Cr, Mg-Fe^{++}-Ni(-Zn-Li) and R_3^{++}-R_2^{+++}. The x-ray structural formulas for water-free substance with 14 O atoms are calcd. for the series, with isomorphous replacement of Al_2MgSi, where Al + Al replace Mg in octahedral layer and Si in tetrahedral layer; the other series belongs to the empirical formula $(R^{++}, R_{2/3}^{+++})_6(OH)_8(Si_4O_{10})$. G. M. Kosolapoff

PROCESSES AND PROPERTIES INDEX

CA

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Chemical constitution of saponites and chlorophaeites. D. P. Serdyuchenko. *Zapiski Vsesoyuz. Mineral. Obshchestva* (Mém. soc. russe minéral.) [2] 76, 177-89 (1947). — Eight analyses of bowlingite, 9 of saponites, and 9 of hullite and chlorophaeite, together with analyses from the literature, are calcd. for (MgO + FeO):SiO$_2$ and R$_2$O$_3$:SiO$_2$ ratios, and these data are plotted in a diagram. The bowlingites belong to the series kaolinite-serpentine with the general formula $(OH)_4(Mg, Al_{2/3})_6(Si_4O_{10}).H_2O$. The saponites are isomorphous mixts. of beidellite (general formula $(OH)_4(Mg, Al_{2/3})_6(Si_4O_{10}).H_2O$) and kerolite ($3MgO.3SiO_2.4^1/_2H_2O$). The isomorphous replacement of Mg^{++} for Al^{+++} in the octahedral layers of the crystal structure is characteristic for these groups. Hullites and chlorophaeites are Fe-enriched types of Fe beidellite (nontronite). In the chlorophaeite group which is closely related to the decompn. products of olivine in diabase-basalt rocks (bowlingite, pilotine, iddingsite, etc.), the post-magmatic genesis of Mg Al hydrosilicates is evident. The role of CaO in such silicates is subordinate, calcite being the characteristic Ca mineral in this paragenesis. The surprising multiplicity of those hydrosilicates is caused by the versatility of the isomorphous replacements. W. Eitel

METALLURGICAL LITERATURE CLASSIFICATION

SERDYUCHENKO, D. P. PA 52T78

USSR/Minerals
Magnesium
Aluminum

Oct 1947

"The Chemical Composition of Piotine and Chlorophaite," D. P. Serdyuchenko, 12½ pp

"Zapiski Vserossiy Mineralo Obshchest" Series 2, Part LXXVI, No 3

Describes chemical composition of piotine, known to exist in 1859, and chlorophaite, first mentioned in 1825. Samples of these minerals obtained from various sources. Chemical composition of minerals from various sources given in tabular form. Both are isomorphs of Mg_3 - Al_2.

52T78

cA

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Chemical constitution and classification of the micas. D. P. Serdyuchenko. *Doklady Akad. Nauk S.S.S.R.* 59, 545-8(1948). The isomorphism in the series muscovite-phlogopite is given in a graphic diagram, with the ratios R^{++}/Si, and R^{+++}/Si as ordinates and abscissas. The chief cationic isomorphisms studies are those in the octahedral structural layer, of the type $R_3^{++} \rightleftharpoons R_2^{+++}$. Si means the cations in the tetrahedral layer, i.e. Si, Ti, Al, Fe; the ratio Si:Al is variable between 2.4:1.6 and 3.6:0.4; the latter ratio is typical for the phengites, and alurgites. The nearly continuous series of isomorphous mixed crystals between muscovite and phlogopite (in the strict meaning of the types) comprises the chem analyses of biotites and lithionites. They are intermediate between the heptaphyllites and octophyllites distinguished by Winchell's classification (C.A. 7, 2371). Because of the very complicated chemistry of the natural micas, it is not yet possible to establish the correspond[illegible] optical diagrams for the isomorphism in the ser[illegible] R^{++}-substituted mica types. [illegible] [illegible]atel

CM

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Crystallochemical role of titanium in micas. D. P. Serdyuchenko. *Doklady Akad. Nauk S.S.S.R.* 59, 730-32 (1948).—From the ionic radius of Ti it is concluded that this element may replace Si and Al in [RO_4] (tetrahedral coordination with O anions) in micas only under high-temp. conditions. Normally, Ti would prefer the octahedral-[RO_6] coördination, replacing Mg and partly Al. There are, however, distinct indications that also the alkalinity of the magma from which the micas crystd. is of primary importance. In highly alk. eruptive rocks of the leucite-nepheline rock types, there will often not be enough Si available in the tetrahedral networks and Al, Fe^{3+}, and Ti must then be introduced. In low-alkaline rocks, either of the basic, intermediate, or acidic types, the Ti will exclusively be in the octahedral layers, replacing Mg. In lamprophyres (quartz-free feldspar rocks) micas of both coördination types occur. The amphoteric nature of Ti which makes it similar to Al is not restricted to micas, but is also evident in amphiboles and pyroxenes crystd. under the conditions of agpaitic magmas.

Sixteen selected mica analyses (biotites, lepidomelane, wodanite) are tabulated and discussed from the calcd. cationic structural distribution data. W. Eitel

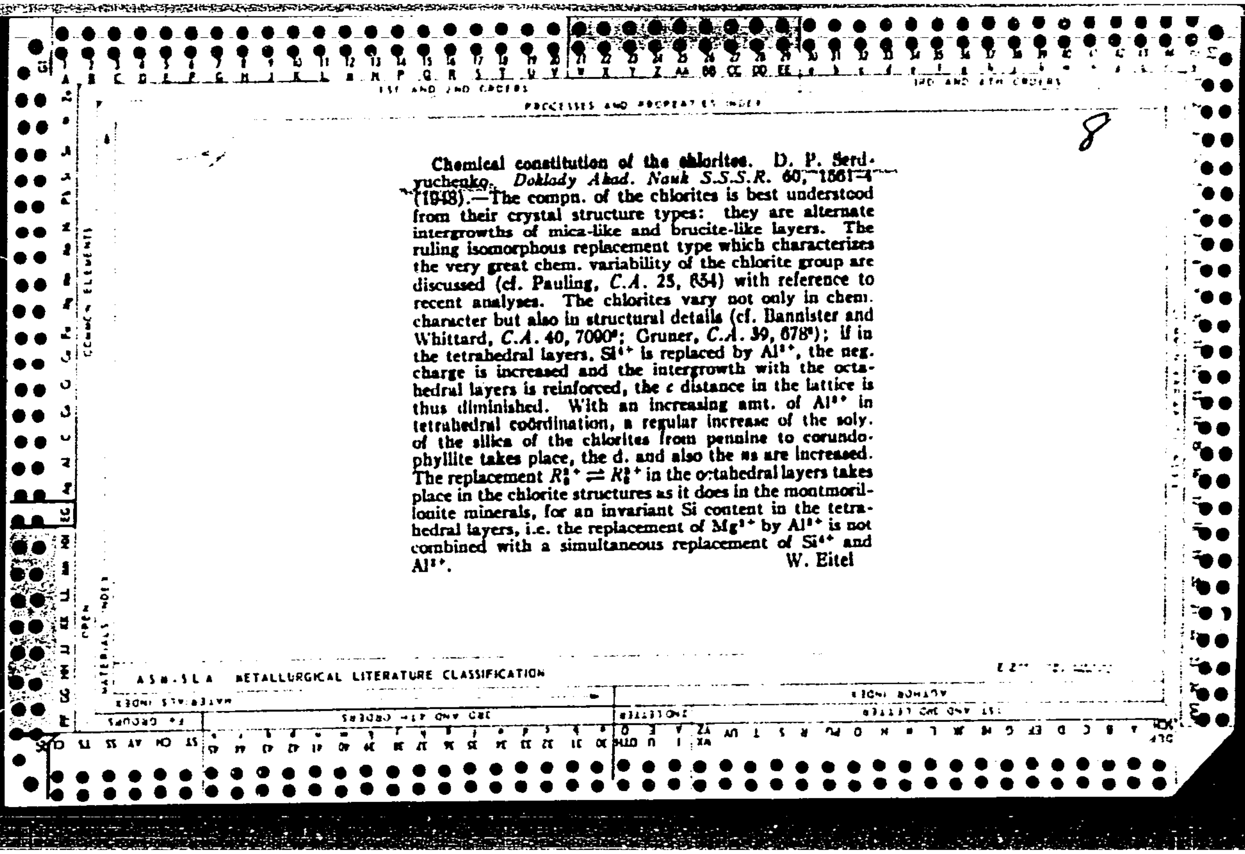
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

8

Two ferruginous chlorites. D. P. Serdyuchenko. *Doklady Akad. Nauk S.S.S.R.* 60, ~~433-6(1948).—In~~ the middle-Devonian schists of the Wershne-Ishemsk area (A.S.S.R.), dark-green dense diabase tuffs have a particular interest since they show all transitions to a coarse-granular magnesian siderite, or to kaolin and goethite-bearing oölites with faintly-green ferruginous chlorites. One type of these chlorites forms dense aggregates in the dark-brown rock, and is contaminated with quartz, calcite, gypsum, pyrite, and iron oxides. Microscopic study of these aggregates shows the presence of a nearly uniaxial mineral of the chlorite group with a marked pleochroism: dark-green on n_γ and n_β, greenish yellow on n_α. The chem. analysis is very near to an ideal amesite: $(OH)_8(Fe^{2+}, Mg)_4(Al, Fe^{3+})_4Si_2O_{10}.H_2O$. The practically complete absence of the antigorite mol. is remarkable. The second type of chlorite is found in ferruginous oölites of greenish gray or brownish color, assocd. with quartz, hematite, iron hydroxide, and volcanic glass residues. It forms rounded platy aggregates, with a faint pleochroism. From the chem. analysis of the purified chlorite, it is the variety strigovite of the empirical formula $2(Fe^{2+}, Mg)O.(Al, Fe^{3+})_2O_3.2SiO_2.2H_2O$. The chemistry of these chlorites is reviewed; a characteristic feature is found in the fact that in spite of the great variability of the bulk compn., the tetrahedral layers are rather uniform in all strigovites with about 3.1 Si to 0.9 Al. Isomorphism in the chlorites is reviewed. W. Eitel

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION


1ST AND 2ND ORDERS
3RD AND 4TH ORDERS
PROCESSES AND PROPERTIES INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Chemical constitution of the chlorites. D. P. Serdyuchenko. *Doklady Akad. Nauk S.S.S.R.* 60, 1561-4 (1948).—The compn. of the chlorites is best understood from their crystal structure types: they are alternate intergrowths of mica-like and brucite-like layers. The ruling isomorphous replacement type which characterizes the very great chem. variability of the chlorite group are discussed (cf. Pauling, *C.A.* 25, 634) with reference to recent analyses. The chlorites vary not only in chem. character but also in structural details (cf. Bannister and Whittard, *C.A.* 40, 7090^e; Gruner, *C.A.* 39, 678^a); if in the tetrahedral layers, Si^{4+} is replaced by Al^{3+}, the neg. charge is increased and the intergrowth with the octahedral layers is reinforced, the *c* distance in the lattice is thus diminished. With an increasing amt. of Al^{3+} in tetrahedral coördination, a regular increase of the soly. of the silica of the chlorites from pennine to corundophyllite takes place, the d. and also the ns are increased. The replacement $R_3^{2+} \rightleftharpoons R_2^{3+}$ in the octahedral layers takes place in the chlorite structures as it does in the montmorillonite minerals, for an invariant Si content in the tetrahedral layers, i.e. the replacement of Mg^{2+} by Al^{3+} is not combined with a simultaneous replacement of Si^{4+} and Al^{3+}. W. Eitel

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Aluminite from the Domanik sediments, S. Tumana. D. P. Sedlyuchenko. *Zapiski Vsesoyuz. Mineral. Obshchestva* (Mém. soc. russe minéral.) 77, 239-40(1948).—Clayey-bituminous limestones of fairly strong schistosity contain horizons with white striae of dusty aluminite, easily friable between the fingers. Quartz and Fe hydroxide grains are often included. Biaxial, pos., with parallel extinction in the fiber elongation; *n*s: $\gamma = 1.455$; $\alpha = 1.447$; birefringence 0.008. Easily sol. in HCl. Chem. analysis (after deduction of contaminations) corresponds to $Al_2O_3.SO_3.4H_2O + 3.5H_2O$ (the latter driven out at 105°). The genesis of the mineral is due to the oxidation of pyrite, the acidic solns. being washed down through cracks in the bituminous sediments; the H_2SO_4 reacted with Al_2O_3 in the clay horizons.

W. Eitel

[illegible], S. P.

"The Dunlites of North Caucasia", Iz. Ak. Nauk SSSR, Ser. Geol., 6, 1949.

Pectolite from Northern Caucasus. D. P. Serdyuchenko. *Doklady Akad. Nauk S.S.S.R.* 67, 725-8 (1949).--Pectolite occurs in serpentinized harzburgites, dunites, and gabbro-diabase dikes with orthorhombic pyroxene, changed to amphibole and biotite on its borders. The pectolite fills veinlets in the rock or flat lenses. The cryst. aggregates are formed by needle-shaped individuals which attain 3-5 cm. length; in fine-granular aggregates the mineral is more scaly and has a pearly luster. Sp. gr. = 2.812. A chem. analysis is given. Differential thermal analysis shows a strong endothermic effect at 700-730° in which the water of constitution is driven out. The total water (3.75%) is lost in two steps: a zeolitic loss between 300 and 600°, and the water of constitution at 700°. After fusion, the glassy product contains devitrite. The x-ray powder diagram of the Caucasian pectolite is rather similar to that of wollastonite, though not identical. The genesis of the pectolite is typically postmagmatic, at about 500°. W. Eitel

(BA - AI Ja '53:104)

C.H

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Two spinels. D. P. Serdyuchenko and V. A. Moleva. *Doklady Akad. Nauk S.S.S.R.* **67**, 1089-92(1949).—Basic dikes contain inclusions of (xenolithic) spinel of very dark-green color. On its margins the mineral is surrounded by fine-cryst. plagioclase and pyroxene, with minute prisms of zoisite n 1.737 ± 0.002. Analysis shows a low content of Fe_2O_3, and 20% $Fe^{II}Al_2O_4$. This spinel is probably formed at great depths, and transported to the surface by the eruptive magma at some later time. A strong chem. differentiation is seen in the irregularities of the Al_2O_3, MgO, and FeO contents of the basic and ultrabasic rocks. An entirely different, reddish brown spinel is observed in a zone with Cr-nontronite, in the exterior parts of weathered serpentinite. The green nontronite contains light-yellow spots of jarosite. Of particular interest is the cylindric-tubular growth of the nontronite aggregates, with interlayers of chalcedony on quartz, which resembles nodular concretions around the roots. Cracks and cavities are thoroughly incrustated with granular Cr spinel, which convers the walls of the nontronite crust. The crystals are small, microscopic examns. showing individuals down to 2 (microns) diam. The spinel aggregates have a high, nearly diamondlike luster, with $n = 2.06$. The genesis of this spinel is rather unusual: high-temp. conditions are excluded, and a migration of Cr may have accompanied the slow nontronitization process. The reactions took place in the presence of waters which contained humic material, and sulfates, the Cr being reduced to Cr_2O_3, and entering the spinel structure under anomalous conditions of low temp., pressure, and concn. This peculiarity is expressed in the compn. by the relatively high content in R_2O_3 while RO is lower than normal. The compn. is that of a Cr picotite, with 84% (Mg, Fe) (Cr, Al)$_2$O$_4$, and 16% $Fe^{III}((Cr, Al, Fe^{III})_2O_4)_3$. In the structure, 5% of the R^{II} positions are empty. In spite of that, the x-ray diagram is entirely that of a normal spinel. The high Fe^{III} content is primary and does not originate from a late oxidation of Fe^{II}. W. Eitel

CA

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Hydromagnesite. D. P. Serdyuchenko. *Doklady Akad. Nauk S.S.S.R.* 68, 581-3(1949).—Abundant veinlets and cords of chrysotile with fine, dusty magnetite, and olivine in the typical mesh structure of serpentinization are observed in the ultrabasic harzburgite-serpentinites and dunites of Malkina (N. Caucasus). Very compact serpentinite, in which carbonates (calcite) are filling the cavities, have magnetite, brucite, and gold-yellow pyroaurite deposited from low-temp. solns. As a secondary product from descending solns., hydromagnesite is abundant in the decompd. apodunitic serpentinites. Pseudomorphs of hydromagnesite after nemalite (fibrous brucite) are observed in the region of Tama(Bol'shoi Labe), in botryoidal aggregates in greenish serpentinite, always indicating a very late mineralization; often it also occurs in rosette-like aggregates of crystal needles especially in geodes. The angle between c and β is 42°; n_γ = 1.540; n_α = 1.528; 2V small, optically pos.; d. 2.18. The chem. analysis corresponds to the formula $4MgCO_3.Mg(OH)_2.4H_2O$. The heating curve (with a rate of 2° per min.) shows endothermic dehydration effects at 270 to 330° (strong), and 410 to 440° (weak). CO_2 is evolved at 550 to 600° (strong effect). The changes of the *n*s as a function of the temp. are plotted; the birefringence has a max. (0.024) at 375°, immediately reduced to 0 at 400°. The assumptions of Caillère (*C.A.* 39, 4815⁴), however, that all H_2O is evolved in one and the same time is evidently erroneous, and brought about by a too rapid heating

W. Eitel

1951

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Mineral regeneration in sediments D. P. Serdyuchenko
and L. V. Dobrotvorskaya. *Doklady Akad. Nauk S.S.S.R.*
69, 421-4(1949).—In the heavy fractions of sandy-clayish
sediments of Devonian, Carbon and Permian rocks of S.
Timan and W. Urals, one often observes regenerated crystals
of garnet, staurolite, zoisite, clinozoisite, apatite, siderite,
sphene, anatase, and brookite. Usually the new-grown
crystals are fixed on fragments of the same, or also of foreign
minerals, from which a portion of the chem. ingredients
have been incorporated during regeneration. An extensive
description is given of the morphological details of the new-
grown crystals of the minerals mentioned above. It
is remarkable how the phys.-chem. conditions of the
regeneration growths differ from those of the primary
crystn. of the same minerals, e.g. in the crystalloblastesis of
metamorphic rocks in which they are "normally" found.
Particularly interesting and conclusive are in this respect
the transparent and colorless crystals of siderite and brookite
regenerated in sediments. The latter mineral is grown on
grains of leucoxene, in typical authigenic forms, and with
very characteristic optical properties. Similar new-formed
transparent crystals of anatase show regeneration from
leucoxene. W. Eitel